

Evolunar



SPACE BUSINESS CATALYST
by Thales Alenia Space



**BUSINESS
INCUBATION
CENTRE**

Turin

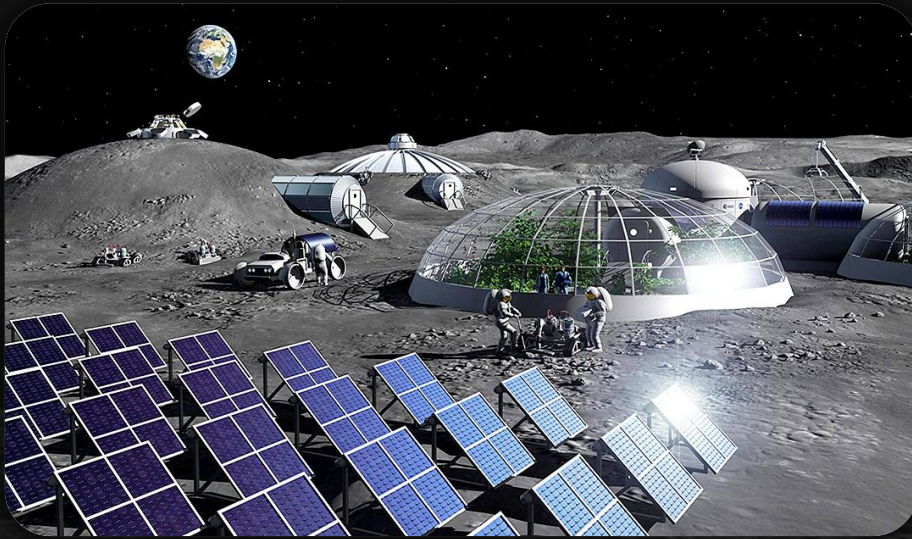


Evolunar **mission** is to support the future of humans on the Moon



To achieve its mission, Evolunar developed innovative technologies that also have high potential in the Drone Industry, unlocking **new opportunities** for autonomy, efficiency and navigation in extreme environments.

Lunar Economy



Drone Industry

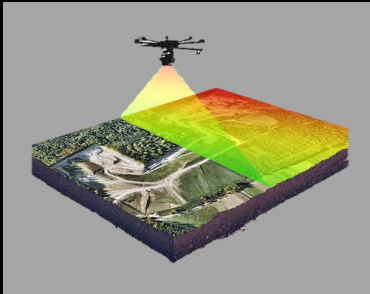


Our **autonomous navigation** technology enables a **dual-market opportunity**

Autonomous Navigation is the core enabler of Drone market expansion



The adoption of **GPS-based navigation** has lowered operational barriers, accelerating drone adoption in diverse commercial **and industrial sectors**, including:



Mapping & Surveying



Power Plant Inspections



Agriculture



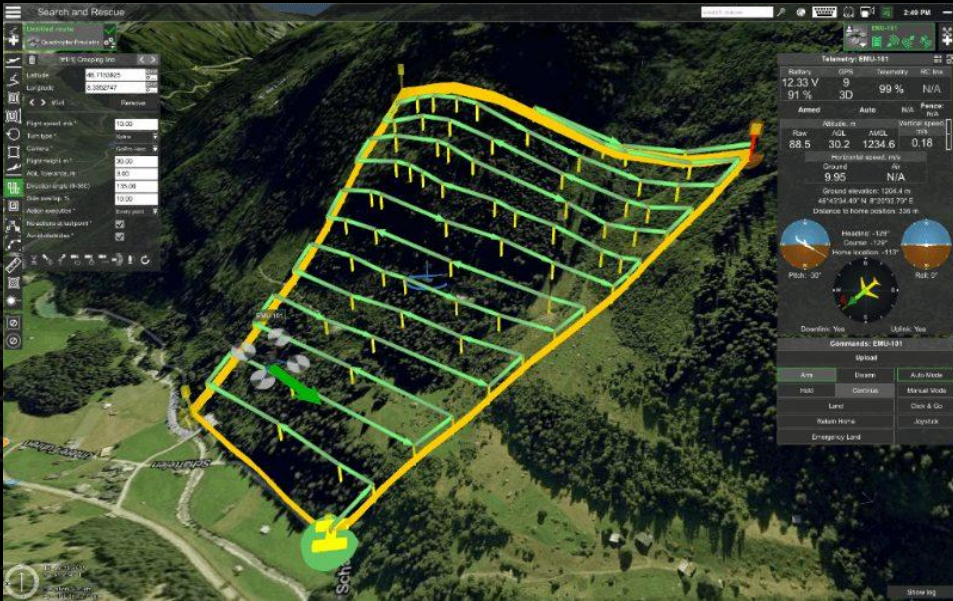
Disaster Response



Delivery



Security & Defense



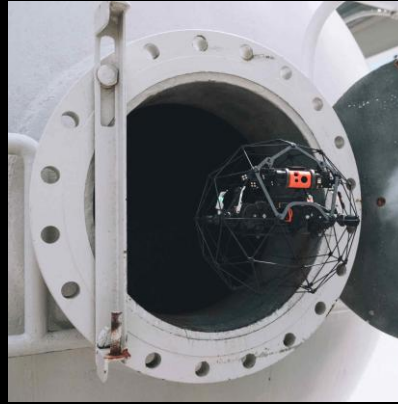
GPS-denied navigation is the technology barrier preventing the full potential of autonomous drones



GPS-denied navigation is a **critical bottleneck**. Overcoming it is key to unlocking **operational efficiency** across **high-value sectors**, including:



Warehouses



Confined spaces



Security & Defense



Infrastructure Inspection



Delivery in urban areas



Mines

We enable **terrestrial drones** to navigate autonomously **without GPS**



LuNaDrone's navigation solution is offered for the terrestrial market at **two levels**

Standalone and plug-and-play hardware + software **package**

The operator **mounts** the package like a standard payload to gain **advanced navigation capabilities**



Navigation **software** to be integrated aboard the drone

Evolunar partners with **manufacturers** to deploy the navigation algorithm on the drone on-board computer



We are going **back to the Moon** to stay



In 2023 *ispace* was the first **space start-up** to attempt landing on the Moon, followed by *Astrobotic*, *Intuitive Machines* and *Firefly*. These **private companies** are providing stable and **commercial access to the Moon**, each of them planning at least one launch per year.



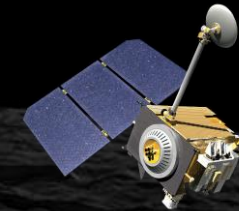
THE NEW RACE TO THE MOON

- **400+ lunar missions**^[1] forecast to launch in the next decade.
- Governments increasingly acting as customers rather than operators (**Moon-as-a-service business model**^[2]).
- The long-term goals include:
 - Creation of a **permanent** human presence
 - Construction of **infrastructure**
 - Exploitation of lunar **resources** (ISRU)

The very first step is to **FIND**^[3] (locate water ice deposits, map the terrain, assess the environment etc.) but:



LUNAR ORBITERS



Low resolution, can't see into hidden features (e.g., lunar pits)

ROVERS



Limited by terrain, slow, small area coverage

Here where the **need for extreme-mobility vehicles** emerge, we need for the Moon something similar to the drones on Earth

Our solution to the need for an **extreme mobility** vehicle is **LuNaDrone**



Since 2020, Evolunar's team has been working on **LuNaDrone**, a small spacecraft capable of **flying over the lunar surface** thanks to its rocket Propulsion System and its **autonomous** Navigation System.



The extreme mobility capabilities of this vehicle allow Evolunar to offer a whole range of post-landing services, from **exploring sites of interest** to **last-mile delivery** of customer payloads.

Evolunar's
post-landing
services



Scouting



Last-mile delivery



Path Planning

Our solution to the need for an **extreme mobility** vehicle is **LuNaDrone**



LuNaDrone **arrives** on the lunar surface **aboard a lander**. Different strategies for detachment and take-off are possible. Its **compact size** makes it suitable for being transported even on small **commercial landers**.



Path planning

LuNaDrone can collaborate with rovers and orbiting satellites, acting as a survey platform for supporting path planning operations



Last-mile delivery

LuNaDrone allow smaller payloads to be transported to more valuable locations far from the landing site.



Scouting

Identify resources to be mined, explore strategic sites (e.g. lunar lava tubes) and collect critical data for efficient mission planning.



We have developed the **enabling technologies** in house

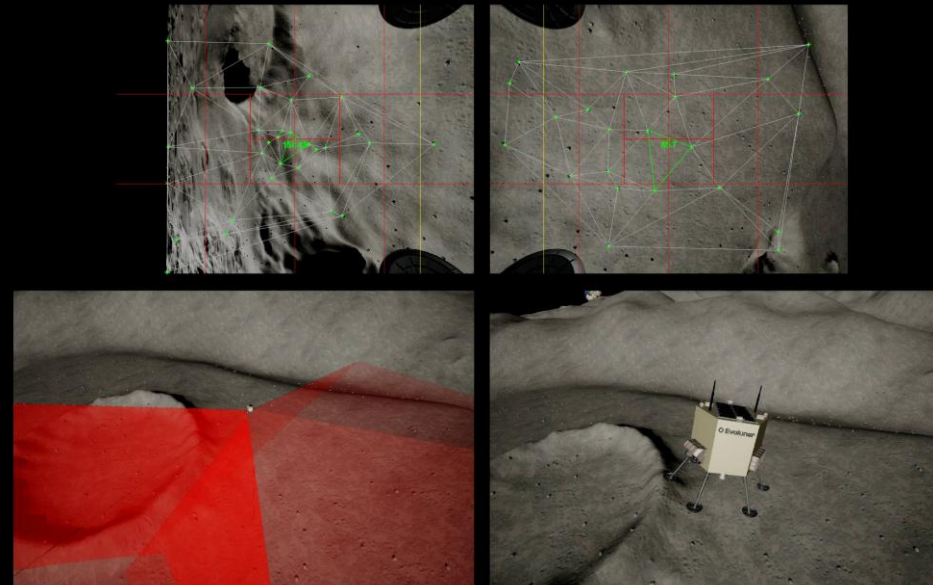
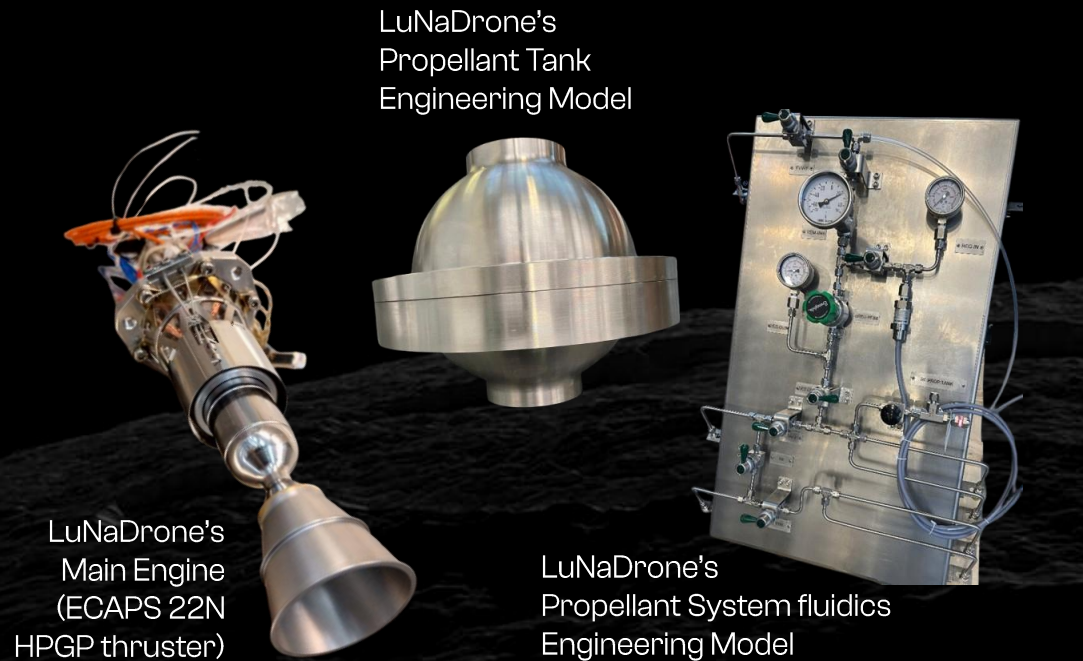


PROPULSION SYSTEM

- **Flexible** and scalable architecture
- Custom innovative **feeding system**
- Integration of **Green Propellant** thrusters

NAVIGATION SYSTEM

- Three **patents pending**
- Proprietary **multicamera** architecture
- Optimized **Software and Hardware**



Multicamera front-end example



NavSys prototype V2

The **Commercial Drone Market** presents opportunities for **short-term** returns



Commercial Drones

Expected market value^[1]

\$73B

From 2024

\$163B

To 2030



[1]: Drone Market by GVR

Standalone Navigation Package

Serviceable Addressable Market (**SAM**)

\$526M

From 2025

\$1.01B

To 2030

SAM was conservatively estimated by considering **only sales in Europe**

The sale of the navigation software to manufacturers will further increase the SAM

The **Lunar Economy** presents large growth opportunities



TRANSPORTATION
OF PAYLOADS

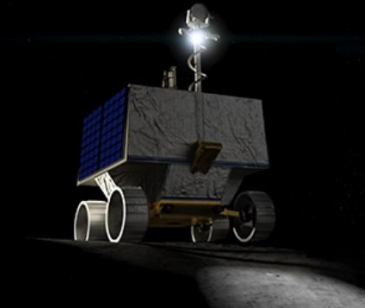
ABOARD
LANDERS

\$47b



ABOARD
VEHICLES

\$30b



COMMERCIALIZATION
OF LUNAR DATA

\$8.5b



Lunar Market

Cumulative value

[1]
\$170b+

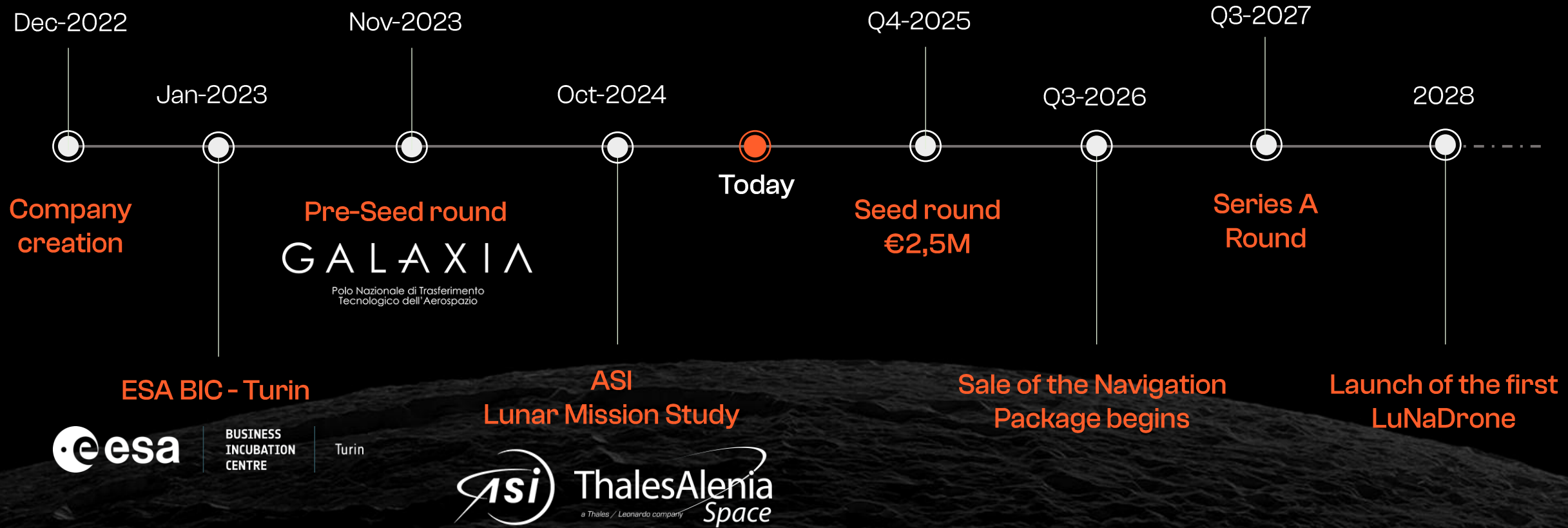
From 2020 ————— To 2040

[2]
400+

Missions to the Moon between 2022 and 2032

[1]: [PricewaterhouseCoopers](#) || [2]: [ESA Lunar Economy Applications](#)

The roadmap that takes us to the Sky and to the Moon



Our next **seed investment** will enable us to achieve critical milestones for our growth



Lunar

From **development models** of individual systems to a ground-based **flight test of the integrated LuNaDrone vehicle**



Terrestrial

From a **working prototype** of the terrestrial navigation system to a finished, certified **industrial product**. **Sales** planned to take place already during the **Seed phase**.



We have ambitious goals and we have the skills to achieve them



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Thank you for your attention

